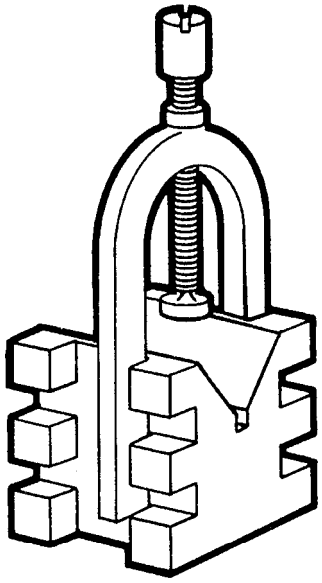
Chapter 9 MISCELLANEOUS MEASURING TOOLS

HOW TO CHOOSE AND USE THEM

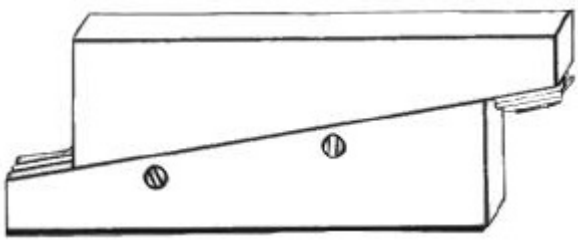
The “Types and Uses” section provides you with a list of the more common types of miscellaneous measuring tools. These. pages should help you select the right measuring tool for the job. The “Using” section tells you how to use several of these tools for a certain application. Although there are many other uses for these tools, you should be able to perform most any task by becoming familiar with the procedures outlined in these pages. The “Care” procedures tell how to care for your measuring tools.



INDEX

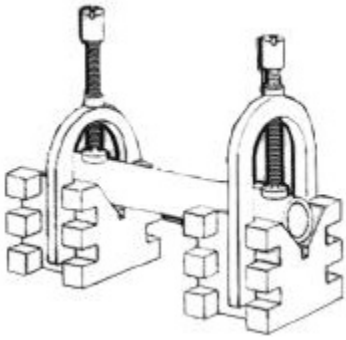
TYPES AND USES

ADJUSTABLE PARALLEL



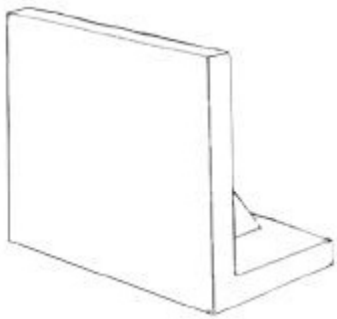
Adjustable parallels consist of two tapered parts fitted together. The distance between the two outside parallel surfaces varies by moving mating parts together or apart. This distance is then measured with a micrometer. Adjustable parallels are used as gages for leveling and setup work. Adjustable parallels are available in various sizes depending on the nature of work.

V-BLOCK AND CLAMP



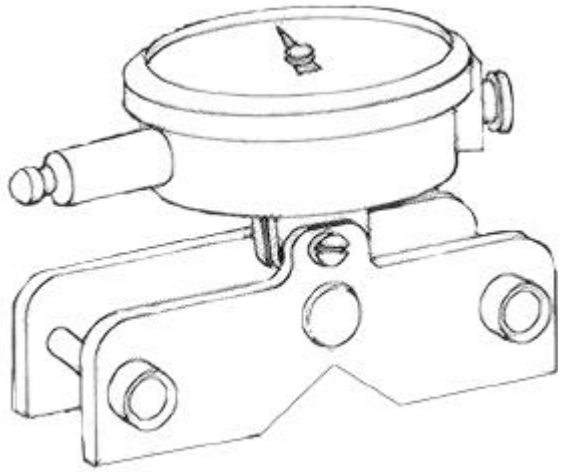
The V-block and clamp assembly consists of a V-shaped, hardened steel body to support round, square, or rectangular shaped work. A clamp (or clamps) holds the work firmly in the body groove. V-blocks and clamps are especially used for grinding, milling, or drilling purposes. Various styles and designs of V-blocks and clamps are available depending on application.

ANGLE PLATES



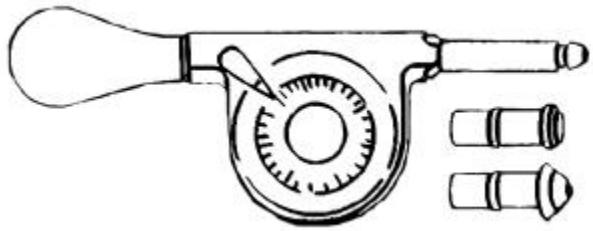
Angle plates are devices consisting of two flat outside working surfaces jointed at right angles. The outside work surfaces are precision ground. The standard angle plate is permanently jointed at a right angle. However, an adjustable type with varying angle adjustments is also available. Angle plates are used for clamping or holding work vertically. They are also used for layout, inspection, or machine set-up. Various sizes and designs are available depending on the task.

MAGNETIC BASE INDICATOR HOLDER



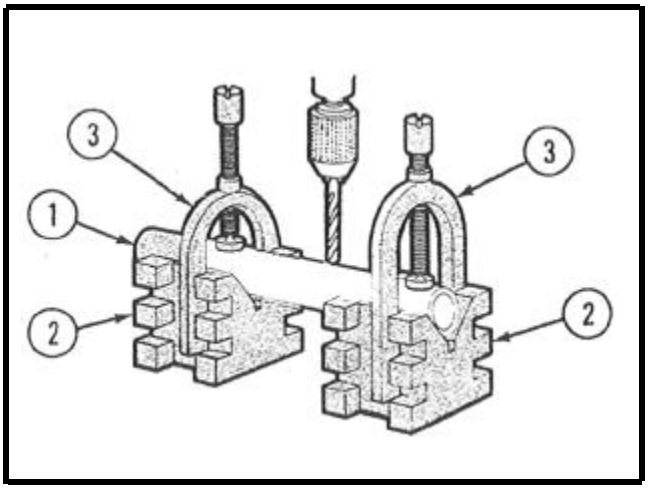
The magnetic base indicator holder is a one-piece metal assembly that attaches to the work surface magnetically. A gage or indicator attaches to the assembly. Base indicator holders are used for attaching gages to lathes, milling machines, shapers, or any machine where graduations are difficult to read. Magnetic base indicator holders are available in many sizes and designs depending on application.

REGISTERING SPEED INDICATORS



Registering speed indicators are designed to count the number of revolutions of wheels, shafts, etc. Revolutions are counted by attaching spindle of speed indicator to hub of shaft or wheel. Indicator spindle will turn in either direction counting each revolution on a circular dial. Various designs of speed indicators are available depending on nature of use.

USING MISCELLANEOUS MEASURING TOOLS



1 Place pipe (1) in V-blocks (2).
2 Secure pipe (1) in position using screw clamps (3).
3 Begin drilling at desired spot on pipe (1).

CARE OF MISCELLANEOUS MEASURING TOOLS

1. Clean all tools thoroughly after using.
2. Apply a light coat of oil to all exposed metal parts to avoid rusting.
3. To avoid possible damage to sensitive tools, store tools in proper locations.